

## ABSTRACT OF THE DISCLOSURE

In the plasma reactor of the present invention, streamer discharge is caused in a wide region so as to increase a plasma generation region without complicating the architecture of the plasma reactor and increasing the cost. In the plasma reactor of the invention, a needle-shaped first electrode and a plate-shaped second electrode are disposed to oppose and to be perpendicular to each other, and the first electrode has a pointed portion as the end thereof on the side of the second electrode and the pointed portion has a point angle  $\theta$  not less than 30 degrees and not more than 90 degrees, and preferably not less than 60 degrees and not more than 90 degrees.